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(54) **SPECIFYING EFFECTS FOR ENTERING OR EXITING A COMPUTER-GENERATED REALITY ENVIRONMENT**

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CPC *G06T 13/40* (2013.01); *G06T 15/20* (2013.01); *G06T 19/006* (2013.01); *G06F 3/016* (2013.01); *G06F 3/167* (2013.01); *G06T 2200/24* (2013.01); *G06T 2219/024* (2013.01)

(58) **Field of Classification Search**
None
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2012/0320080 A1	12/2012	Giese et al.
2013/0246942 A1	9/2013	Merrifield et al.
2014/0004951 A1	1/2014	Kern et al.
2017/0157512 A1	6/2017	Long et al.

OTHER PUBLICATIONS

Applicant-Initiated Interview Summary received for U.S. Appl. No. 16/141,774, dated Apr. 1, 2020, 3 pages.
Applicant-Initiated Interview Summary received for U.S. Appl. No. 16/141,774, dated Nov. 9, 2020, 3 pages.
Final Office Action received for U.S. Appl. No. 16/141,774, dated Jul. 2, 2020, 14 pages.
Kayakermagic, "Teleport Tones for Second Life", Online Available at https://www.youtube.com/watch?v=4FzzlpwgFEO, Nov. 28, 2012, 3 pages.
Non-Final Office Action received for U.S. Appl. No. 16/141,774, dated Oct. 30, 2019, 11 pages.
Notice of Allowance received for U.S. Appl. No. 16/141,774, dated Nov. 30, 2020, 8 pages.
Themediacows, "X-Men: The Arcade Game Walkthrough—Part 1 [HD] (X360, PS3)", Online Available at: https://www.youtube.com/watch?v=OklbsX1BMPY, Dec. 17, 2010, 3 pages.

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(57) **ABSTRACT**
In an exemplary process for specifying an entrance or exit effect in a computer-generated reality environment, in response to a user entering or exiting the computer-generated reality environment, a transition effect is provided.

24 Claims, 18 Drawing Sheets